Building Baselibs for GEOS

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Building Baselibs

The "Simplified Baselibs" is a refactored baselibs package, originally released by Arlindo DaSilva. It has been modified by Rahman Syed for additional support on NCCS and NAS systems (Discover, Palm, Sensorweb, Schirra).

If you would like to install baselibs, the following instructions should provide guidance for the systems that have already been tested. If you'd like to install baselibs on a new system and are having difficulties, please contact Rahman.A.Syed@nasa.gov .

Checkout Baselibs code

When you have permission to checkout the Baselibs software from SourceMotel, login to your target system and issue these commands:

Bash-compatible shells:

export CVS_RSH=ssh

cvs -d :ext:USERNAME@c-sourcemotel.gsfc.nasa.gov:/cvsroot/baselibs checkout -r SOMETAG Baselibs

C-compatible shells:

setenv CVS_RSH ssh

cvs -d :ext:USERNAME@c-sourcemotel.gsfc.nasa.gov:/cvsroot/baselibs checkout -r SOMETAG Baselibs

Please replace USERNAME with your SourceMotel userid. Please replace SOMETAG with a valid Baselibs tag. If you are using GEOS, consider tag "Baselibs_2_0_3_ESMF_2_2_0rp2". Also please note that the module name is "Baselibs", case sensitive.

Available tags:

Baselibs_2_0_3_ESMF_2_2_0rp2 (GEOS-compatible)

Baselibs_2_0_3_ESMF_2_2_2rp3

Set up environment

For each system, the environment must be setup so the build process will use the desired compilers. The following is a summary of the systems described in the INSTALL document found within the Baselibs package:

Discover (x86_64 Linux system)

On this system, baselibs can be built easily with Intel and PGI compilers. Simply load the module for the compiler you wish to build with. The Scali MPI module is always required.

Palm (IA64 Linux system)

Only the Intel compilers are available on this system. The SGI MPT library is always required for MPI support. Make sure one Intel compiler module and one MPT module are loaded.

Sensorweb (x86 Mac OS X system)

Both GNU compilers and Intel compilers are available on this system. Since the OpenMPI software included in the OS was not built with F90 support, it cannot be used. You must have a personal build of OpenMPI; when you call "which mpicc" the result should be from your personal build and not the OS's /usr/bin/mpicc.

Furthermore, if the Intel compilers are used, the GCC_INCLUDE_DIR environment variable must point to the GCC header files on the system (in /usr/lib/gcc/i686-apple-darwin9/4.0.1/include)

Schirra (POWER5+ AIX system)

Only the IBM XL compilers are available on this system, with POE for MPI support. Simply issue the command provided in the INSTALL document with no required environment setup.

Check for errors

When issuing the make commands found in the INSTALL document, it's best to route all output into a logfile for debugging purposes. Use the following conventions to capture all information and run the installation in the background:

Bash shell:

make install &> install.log &

C shell:

make install >& install.log &

Korn shell:

make install > install.log 2>&1 &

You can also issue a "tail -f install.log" to watch the process run to completion if you'd like.

When the process has completed, search install.log for the keyword "Error". Ignore any "Error" string that's found in a filename or as part of a compiler warning. If there are legitimate errors, please review your environment setup and build command prior to contacting support.

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